IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	:	Group Art Unit: 2126
	:	Examiner: H. N. PATEL
Balijeet S. Baweja et al.	:	Intellectual Property
Serial No: 09/589,799	:	Law Department - 4054
Filed: 06/08/2000	:	International Business
Title: AN INTERACTIVE DATA	:	Machines Corporation
PROCESSOR CONTROLLED DISPLAY	:	11400 Burnet Road
INTERFACE FOR TRACKING OF	:	Austin, Texas 78758
ALLOCATED MESSAGES IN A	:	
DYNAMIC WORKLOAD BALANCING	:	
COMMUNICATION SYSTEM	:	
Date: _3/19/04_	:	

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal from the Final Rejection of Claims 1-20 of this Application. An Appendix containing a copy of each of the Claims is attached.

I. Real Party in Interest

The real party in interest is International Business Machines Corporation, the assignee of the present Application.

II. Related Appeals and Interferences

None

AUS920000172US1

III. Status of Claims

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

There are 20 claims in this Application.

B. STATUS OF ALL THE CLAIMS

1. Claims cancelled: None.
2. Claims withdrawn from consideration but not cancelled: None.
3. Claims pending: None.
4. Claims allowed: None.
5. Claims rejected: Claims 1-20.

C. CLAIMS ON APPEAL

Claims on appeal: Claims 1-20.

IV. Status of Amendment

Claims 1-20 were in the filed Application.

Claims 1 through 20 in this Application were first rejected under in an Office Action mailed July 3, 2003.

Applicants filed a Response on October 3, 2003 which traversed the rejection.

On October 29, 2003, an Office Action finally rejecting claims 1-20 was mailed.

A Notice of Appeal herein of the final rejection of Claims 1-20 was filed on January 29, 2004.

The present Brief is submitted for said Appeal.

V. Summary of Invention

The present invention is directed to dynamic workload distribution in a message driven transaction environment. In such a message driven transaction environment, a user initiated transaction is allocated to each of a set of messages distributed for performance and stored in sequences of queues. In the message driven transaction environment of the present invention, all of the protocols in the distribution and message allocation needed to complete user input transaction requests are invisible or transparent to the user including workload allocation and balancing via message queues. Thus, the advantage to the user is that the user need not be concerned with all of the networking protocols, nodes and channels which must be traversed in the workload distribution, since this is seamlessly, automatically and dynamically done by the workload balancing algorithm. However, the invention has found that the very transparentness of the workload balancing causes operation problems to workload balancing system administrators in the case where messages are delayed or even lost in distribution and allocation. In current workload balancing systems, there is no user friendly process for tracking lost or delayed messages. In current workload balancing systems, it is necessary for system administrators to go to each queue manager's queue on any computer system that could have possibly received a message from the workload balancing algorithm, and view its list of processed or waiting messages. The present invention provides a user interactive display means for monitoring the allocation and distribution of the transaction messages at all levels of the distribution hierarchy, and for displaying the allocated messages and the computer systems associated with the allocated messages.

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VI. Issues

A. Whether claims 1, 2, 7, 8, 12, 13, and 18-20 are anticipated under 35 U.S.C. 102(b) by Yamane et al., (US6,317,786).

B. Whether claims 3-5, 9-11, and 14-16 are obvious under 35 U.S.C 103 (a) over the combination of Yamane in view of Wolff (US6,185,6001).

C. Whether claims 6 and 17 are obvious under 35 U.S.C. 103(a) over Yamane in view of Suzuki (5,884,077)

VII. Grouping of Claims

1) Claims 1, 2, 6-8, 12, 13, and 17-20 covering the basic invention of tracking the allocation and distribution of the transaction messages in the distribution hierarchy, and displaying the allocated messages and the computer systems associated with the allocated messages.

2) Claims 3-5, 9-11, and 14-16 covering an implementation wherein the messages into which the transactions are allocated are in turn stored in queues for computer systems from which the messages may respectively be reallocated to other computer systems together with means for displaying the reallocated message queues.

VIII. Argument

Group 1)
Claims 1, 2, 7, 8, 12, 13, and 18-20 are Not Anticipated under 35 U.S.C. 102(b) by Yamane et al., (US6,317,786).

A Rejection based on anticipation under 35 U.S.C. 102, must expressly or impliedly teach every element of invention without modification. The Examiner's application of the Yamane patent to the above claims clearly fails to meet this standard.

The teaching of Yamane is directed to a system in an operating environment quite différent from that of the present invention which is specific to dynamic workload distribution in a message driven transaction environment. In such a message driven transaction environment, user initiated:

"...transactions are distributed or divided into messages which are allocated through queues or sequences of queues to linked computers or computer systems for message execution..." (present Application, p. 2, lines 11-14).

The Yamane patent is directed to management of Web page requests in a Web site managed for a host. Unlike the workload balancing of the present invention which is directed to the distribution or division of transactions into sets of messages, the workload balancing in Yamane is merely directed to the workload balancing in the processing of Web page requests in the server system at a hosted Web page site. Because of this significant difference in operating environments, it is submitted that the Yamane patent can not teach every element of this invention without modification as required by 35 U.S.C. 102.

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In addition, Yamane still does not even disclose the elements of the present invention. The problem in message driven transaction environment which the present invention solves would not be considered in the Web site environment of Yamane. In the message driven transaction environment, all of the protocols in the distribution and message allocation needed to complete user input transaction requests are invisible to the user. Workload allocation and balancing via message queues is transparent to the initiating user and his input workload appears to be operating as if it were being done on an individual computer. Thus, the advantage to the user is that the user need not be concerned with all of the networking protocols, nodes and channels which must be traversed in the workload distribution, since this is seamlessly, automatically and dynamically done by the workload balancing algorithm. However, the invention has found that the very transparentness of the workload balancing causes operation problems to workload balancing system administrators in the case where messages are delayed or even lost in distribution and allocation. In current workload balancing systems, there is no user friendly process for tracking lost or delayed messages. In current workload balancing systems, it is necessary for system administrators to go to each queue manager's queue on any computer system that could have possibly received a message from the workload balancing algorithm, and view its list of processed or waiting messages. The present invention provides a user interactive display means for monitoring the allocation and distribution of the transaction messages at all levels of the distribution hierarchy.

The Yamane remains unaware of the environment and the problems solved by the invention, and consequently can not

disclose the elements of the invention. Considering now the elements of the independent claims, e.g. Claim 1, Yamane does not disclose "distributing data processing transactions into a plurality of messages and for dynamically allocating each of said messages to different computer systems for performance". In Examiner's application of Yamane, the distribution is of Web page requests in a Web site server, and not of the plurality of messages allocated in the distribution of a transaction.

Yamane does not disclose "displaying said allocated messages and associated computer systems". At most Yamane may disclose monitoring of the distribution of Web page requests at a Web site, this is not a disclosure of monitoring and displaying message distribution in a transaction distribution environment. Also, while Yamane may disclose displaying aspects of the Web page request distribution, the reference does not disclose the display of tracked allocation of transaction messages.

The Key to Examiner's Argument is Erroneous:

In order to fulfill the very strict standard of 35 U.S.C. 102, that Yamane must expressly or impliedly teach every element of invention without modification, the Examiner argues that the term "distributing data processing transactions into a plurality of messages" does not mean that the transaction is divided into a plurality of messages. The Examiner impliedly admits, Yamane does not teach dividing transactions into messages, but argues that the present claims do not have the limitation of dividing into messages.

Applicants submit that the whole technology of distributed data processing as described in the Background art on pages 1 and 2 of the Application and defined in

preamble of the independent claims is based upon dividing transactions into messages.

Page 2, lines 11-14 of this Application quoted above uses "divided" as an alternative to "distributed" in describing the division of transactions into messages.

Furthermore, any doubt that distributed into messages means divided is clearly confirmed by the definition of the word "distribute" in the New College Edition of the American Heritage Dictionary of the English Language, Houghton Mifflin Co., Boston MA., 1976 in its first definition of distribute:

"**Distribute**.. 1. To divide and dispense in portions;"

Accordingly, it is submitted that all of the claims do have the express limitation that a transaction is divided into messages which are allocated to different computer systems.

Since Yamane does not disclose dividing transactions into messages, it fails to meet the strict disclosure required for an anticipatory reference under 35 U.S.C. 102.

Specific Sets of Claims Define Further Patentability.

Claims 18-20 more specifically define the application of the invention to a message driven transaction environment by setting forth the limitation that the allocation of transactions into messages is without user input. In attempting to anticipate these claims, the Examiner applies a combination of two different sections of Yamane. The first covers Web page test requests are made in order to locate distribution problems in Web page requests, and the second is merely a figure showing the display of a Web page tracking log. This Examiner applied combination is

submitted to be too vague and general to be the unmodified disclosure required for a 35 U.S.C. 102 anticipation.

Claims 6 and 17 are Not Obvious under 35 U.S.C. 103(a) over Yamane in view of Suzuki (5,884,077).

Claims 6 and 17 are submitted to be patentable for all of the reasons set forth above for the independent claims from which they respectfully depend. In addition, claims 6 and 17 cover a system and related program wherein the user is enabled to interactively display the allocated messages and their associated computers. Here again, Examiner concedes that Yamane does not teach the aspects of the invention set forth in these more specific claims but looks to Suzuki to make up for this deficiency. Fig. 1 of Suzuki cited by the Examiner is again a very general teaching that computers in a network with workload balancing may be accessed through a user display interface. There is not any teaching in Suzuki specific to the allocation of messages divided from a transaction in queues for workload balancing. Consequently, it is submitted that the teaching of Suzuki does not make up for the shortcomings of the Yamane reference.

Group 2)

Claims 3-5, 9-11, and 14-16 are Not Obvious under 35 U.S.C 103 (a) over the combination of Yamane in view of Wolff (US6,185,601).

These claims are submitted to be patentable for all of the reasons set forth above for the independent claims from which they respectfully depend. In addition, these claims involve an implementation wherein the messages into which the transactions are allocated are in turn stored in queues for computer systems from which the messages may respectively be reallocated to other computer systems together with means for displaying the reallocated message queues.
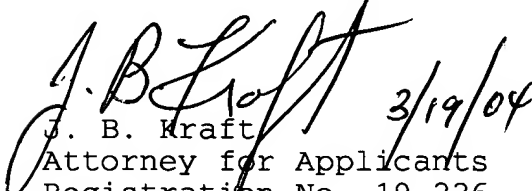
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Examiner concedes that Yamane does not teach the aspects of the invention set forth in these more specific claims but looks to Wolff to make up for this deficiency. Wolff is at best a very general teaching that computer workloads can be rebalanced. There is not any teaching in Wolff specific to the allocation or reallocation of messages in queues for workload balancing. Also, there also is no teaching in Wolff of displaying the queues of allocated or reallocated messages.

IX. Conclusion

In view of the foregoing: claims 1, 2, 7, 8, 12, 13, and 18-20 are Not Anticipated under 35 U.S.C. 102(b) by Yamane et al., (US6,317,786); claims 6 and 17 are unobvious under 35 U.S.C. 103(a) over Yamane in view of Suzuki (5,884,077); and claims 3-5, 9-11, and 14-16 are unobvious under 35 U.S.C 103 (a) over the combination of Yamane in view of Wolff (US6,185,601).

Accordingly, the Board of Appeals is respectfully requested to reverse the final rejection and find claims 1-20 are submitted to be in condition for allowance,

Respectfully submitted,

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Appendix

Claims on Appeal:

1   1.   A workload balancing system for distributing data
2   processing transactions into a plurality of messages and for
3   dynamically allocating each of said messages to different
4   computer systems for performance comprising:
5   means for requesting the performance of a data
6   processing transaction,
7   a server computer for said distributing said
8   transaction into a plurality of messages and allocating said
9   messages to different computer systems, and
10   user interactive display means for displaying said
11   allocated messages and associated computer systems.

1   2.   The workload balancing system of claim 1 further
2   including a server queue for storing the plurality of
3   messages from the distributed transaction.

1   3.   The workload balancing system of claim 2 wherein each of
2   said different computer systems has an associated queue for
3   storing messages allocated to each respective computer
4   system.

1   4.   The workload balancing system of claim 3 wherein at
2   least one of said different computer systems has means for
3   reallocating to other computer systems, messages initially
4   allocated to said one computer system.

1   5.   The workload balancing system of claim 4 further
2   including user interactive means for displaying said
3   reallocated messages and computer systems to which said
4   messages are reallocated.

1   6.   The workload balancing system of claim 1 further
2   comprising an interactive display computer including said
3   means for requesting the performance of a data processing
4   transaction and user interactive display means for
5   displaying said allocated messages and associated computer
6   systems.

1   7.   A method for distributing data processing transactions
2   into a plurality of messages and for dynamically allocating
3   each of said messages to different computer systems for
4   performance comprising:
5   requesting the performance of a data processing
6   transaction,
7   distributing said transaction into a plurality of
8   messages and allocating said messages to different computer
9   systems, and
10   interactively displaying said allocated messages and
11   computer systems.

1   8.   The method of claim 7 further including the step of
2   storing the plurality of messages from the distributed
3   transaction in a queue.

1   9.   The method of claim 8 including the step of storing
2   messages allocated to each respective computer system in a
3   queue associated with said computer system.

1 10. The method of claim 9 further including the step of
2 reallocating to other computer systems, messages initially
3 allocated to one of said different computer systems.

1 11. The method of claim 10 further including the step of
2 user interactively displaying said reallocated messages and
3 computer systems to which said messages are reallocated.

1 12. A computer program having program code included on a
2 computer readable medium for workload balancing of
3 distributed data processing transactions comprising:
4   means for requesting the performance of a data
5 processing transaction,
6   means for distributing said transaction into a
7 plurality of messages and allocating said messages to
8 different computer systems, and
9   user interactive display means for displaying said
10 allocated messages and associated computer systems.

1 13. The computer program of claim 12 further including
2 queue means for storing the plurality of messages from the
3 distributed transaction.

1 14. The computer program of claim 13 wherein each of said
2 different computer systems has an associated queue for
3 storing messages allocated to each respective computer
4 system.

1 15. The computer program of claim 14 further including
2 means for reallocating to other computer systems, messages
3 initially allocated to said one computer system.

1 16. The computer program of claim 15 further including user
2 interactive means for displaying said reallocated messages
3 and computer systems to which said messages are reallocated.

1 17. The computer program of claim 12 wherein said means for
2 requesting the performance of a data processing transaction
3 and said user interactive display means for displaying said
4 allocated messages and computer systems are in a user
5 interactive display computer.

1 18. A workload balancing system for distributing data
2 processing transactions into messages and for dynamically
3 allocating said messages to different computer systems for
4 performance comprising:
5   means enabling a user to request the performance of a
6 data processing transaction,
7   a server computer for dynamically transforming
8 requested transactions into messages without user input and
9 allocating said messages to different computer systems, and
10   user interactive display means for displaying said
11 allocated messages and associated computer systems.

1   19. A method for distributing data processing transaction
2   messages and for dynamically allocating said messages to
3   different computer systems for performance comprising:
4   enabling a user to request the performance of a data
5   processing transaction,
6   dynamically transforming transactions into messages
7   without user input and allocating said messages to different
8   computer systems, and
9   interactively displaying said allocated messages and
10 associated computer systems.

1   20. A computer program having program code included on a
2   computer readable medium for workload balancing of
3   distributed data processing transactions comprising:
4   means enabling a user to request the performance of a
5   data processing transaction,
6   means for dynamically transforming requested
7   transactions into messages without user input and allocating
8   said messages to different computer systems, and
9   user interactive display means for displaying said
10 allocated messages and associated computer systems.